

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 03-15								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-C-15-012	Contract Period 08/01/2015 To 07/31/2019 Base Option Period Number 3	Title of Work Assignment/SF Site Name Organic Materials Management								
Contractor CSRA LLC		Specify Section and paragraph of Contract SOW 2.2, 2.10, 2.16								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 12/12/2018 To 07/31/2019								
Comments: In accordance with clause B.1 of the contract, immediate start is hereby approved for this work assignment. If the work plan is not approved within 35 calendar days after receipt of the work plan, the contractor shall stop work.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
08/01/2015 To 07/31/2019				0						
This Action:				900						
Total:				900						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee		LOE:						
Cumulative Approved:		Cost/Fee		LOE:						
Work Assignment Manager Name Michael Nye <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 703-347-0238 FAX Number:				
Project Officer Name Nancy Parrotta <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-564-5260 FAX Number:				
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:				
Contracting Official Name Donna Reinhart <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2114 FAX Number:				

Contract No. EP-C-15-012 Option Period 3

Work Assignment: 03-15

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LOE: 900

Period of Performance: Effective date through July 31, 2019

CHARACTERIZING SEASONAL WASTE STREAMS IN RESORT COMMUNITIES AND UPDATING THE FOOD WASTE OPPORTUNITIES MAP

I. PURPOSE

The purpose of this work assignment is to advance the understanding and best practices of Waste Management, Materials Recovery, and Organic Materials Diversion/ Management as part of EPA's Sustainable Materials Management program.

To achieve this purpose, the contractor shall be expected to conduct an evaluation of atypical waste streams that exhibit high volumetric variability due to seasonal residency and to update a data set of food "rescue" organizations to be used in the Excess Food Opportunities Map.

The intended audience for this project is the general public, and public officials responsible for waste management and recycling programs.

II. BACKGROUND

Colorado tourism has been setting records for number of visitors for six consecutive years with 82.4 million visitors in 2016 (Source: Colorado Tourism Office). Tourist behaviors impact local communities. Visiting condominium renters contribute to the municipal solid waste streams, but communication with renters is an identified challenge, especially in rural areas. Resort communities may find pinpointing exact population increase during peak seasons difficult. One estimate, using wastewater daily flow (100 gallons / person / day) estimates that in the City of Aspen, the population between low and high seasons can fluctuate by as many as 12,000 people or about 140%. Resort areas do not know how much or what waste materials are generated in rental properties, although it is generally assumed that a higher-than-average proportion of the waste stream from these properties is food waste, or materials that have value on secondary markets (recyclable materials that are not being recycled). Resort communities need EPA's help to better understand waste streams in these properties and to identify the best options for recovery of recyclable materials or diversion of food waste, and how to communicate best practices to facilitate behavior change.

More generally, up to 40% of food produced in the U.S. is currently wasted, and 95% of wasted food is landfilled. Landfills are the third largest anthropogenic source of methane (CH₄) emissions in the U.S., accounting for 18% of total emissions in 2012. CH₄ contributes to more than one-third of today's anthropogenic warming because its global warming potential is at least 25 times greater than CO₂. Diverting wasted food and other organics from landfills dramatically reduces its greenhouse gas impact. Many states are implementing regulations that require diversion of food waste and other organics from landfills. Food rescue organizations are a part of the solution. Food rescue organizations are those that rescue, glean, transport, prepare, and distribute food to the food insecure in their communities. These organizations include food banks, food pantries, soup kitchens, and homeless shelters. There is a need to map food rescue organizations across the US to help communities and states make more informed choices about food diversion. Diverting food waste from landfills decreases leachate formation and potential pollution of ground and surface water. Encouraging composting and anaerobic digestion recycles nutrients like nitrogen and phosphorus into the soil. These nutrients would otherwise end up in surface water. Recycling nutrients into soil decreases the need to add chemical fertilizers which inevitably run-off into surface water.

This work assignment contains 2 tasks to tackle these related problems.

III. QUALITY ASSURANCE

Tasks in this work assignment require a Project Specific Quality Assurance Project Plan (PQAPP). Consistent with the Agency's QA requirements, the contractor does not need to supplement the Contract Quality Assurance Project Plan (QAPP) but will need to prepare a Project Specific Quality Assurance Project Plan (PQAPP).

IV. DETAILED TASK DESCRIPTION

Task 0: Work Plan, QA Plan and Monthly Progress Reports

The contractor shall develop a work plan that describes how each task will be carried out. The work plan shall include a schedule, staffing plan, level of effort (LOE), and cost estimate for each task, the contractor's key assumptions on which staffing plan and budget are based, and qualifications of proposed staff. If a subcontractor(s) is proposed and subcontractors are outside the local metropolitan area, the contractor shall include information on plans to manage work and contract costs.

In addition, the contractor shall use the "Project Planning Checklist" Attachment B to the Contract QMP to define QA tools and procedures used in each of the tasks, consistent with the requirements of the Contract QMP. A PQAPP shall be prepared consistent with the requirements of *EPA Requirements for QA Project Plans (QA/R-5)* addressing specific elements of data collection and analysis as described in Task 1 (1.1-1.3). A copy of the completed checklist and PQAPP is to be provided to the ORD WACOR and other project participants for review and retained in the project files for each task.

This task also includes monthly progress and financial reports. Monthly financial reports must include a table with the invoice LOE and cost amount broken out by the tasks in this WA.

Deliverables: Work Plan, and monthly progress and financial reports.

Task 1: Condo Rental Waste Characterization in San Miguel County (Telluride, Mountain Village) CO

Background

This Task proposes the following outcomes: 1) characterize condominium rental waste streams with an emphasis on identifying food waste and recyclable materials (using citizen-science-based waste audits) in condo rental properties in Telluride and Mountain Village, Colorado 2) Analyze community capacity for food waste diversion and recyclables recovery using the EPA Food Recovery Hierarchy and recent waste audits for the wider, resident population 3) Provide top recommendations (community-specific) for next steps to reduce food waste and improve recovery of recyclable materials.

What gets measured gets managed. Each year, EPA produces the Advancing Sustainable Materials Management (SMM) Report. While this report provides useful information about municipal solid waste generation, recycling, combustion and landfilling, these data are at a very "big picture" level. In fact, for EPA Region 8, some of our states do not supply numbers, and the data that are included are often incomplete. EPA has made a commitment to community-based technical assistance and capacity

building in a variety of programs and across media areas. Colorado resort communities often have strong sustainability organizations working to reduce waste going to landfills. However, tourism/ resort communities do not have an accurate picture of the amounts/types of materials generated by a significant contributor to the tourism sector – visitors renting condominiums. The transient and variable nature of the resort population during tourist seasons makes tracking and reducing waste a particular challenge. However, statewide, there is a clear need to gather metrics on various aspects of the visitor population due to the large impact of this sector. State total for visitors who took a “marketable leisure trip” was 16.1 million in 2014, with the average Colorado leisure trip lasting 4.6 nights and 2/3 staying in overnight commercial lodging (which includes condominiums) and ¼ being in the “mountain resort region”.

EPA is working with San Miguel County, the City and Resort of Telluride, and EcoAction Partners, a local non-profit, to better understand the contribution of non-resident condo-rental waste streams to the waste footprint of San Miguel County. Telluride operates a number of short-term condo rentals. Currently, it is unknown how much waste is produced from renters in these properties in peak and non-peak seasons and what types of materials comprise that waste stream. It is assumed that food waste and recyclable food waste packaging or other recyclables, such as aluminum cans, will make up the bulk of the waste stream from these properties. Better understanding these waste streams through careful auditing and characterization at peak and non-peak times, will inform decisions by the City and County to reduce food waste and improve recycling programs in these properties.

Research questions

- 1) What is the overall characterization and weight of waste materials collected from a specific block of condo rentals during peak periods (Winter and Summer season) and non-peak periods (spring “shoulder season”).
- 2) What proportion of the characterized waste is food waste and how does this differ from the proportion of the county as a whole (permanent resident population)?
- 3) What proportion of the characterized waste is recyclable material (value on the secondary materials market for this county) and how does this differ from the proportion of the county as a whole (permanent resident population)?
- 4) How do peak and non-peak occupancy periods impact the results for Questions 1-3?
- 5) What options could the resort pursue to reduce waste in general in condo rental properties, and specifically to reduce food waste and improve recycling rates?

Specific tasks

Task 1.1: Site Characterization

The contractor shall review responses from the community-level partners and consult with them (EPA will provide contact details) to produce a short 2-3 page synthesis report describing the condo rental location chosen for the study. It is expected that a single block of condos will be recommended by the resort staff for this study, but two or more locations could be chosen. The report shall summarize relevant facts and figures for the chosen location including, but not limited to: historic and projected seasonal occupancy rates, variations in number of bedrooms or maximum occupancy, pricing for

different seasonal periods (if differences exist), socio-demographic characteristics of renters collected by the resort (if any) and available waste and recycling infrastructure.

Task 1.2: Develop Characterization Protocol and Data Collection Plan

The contractor shall review a recent waste characterization study for San Miguel County (*Sneffels Waste Diversion Planning Project (2016)*) and develop a waste characterization and assessment protocol that replicates the categories drawn from Appendix B-E (pp 24-28) of that report. The report is appended to this WA. It is important that the same categories and reporting format are used for all property locations to ensure comparability of the results in this Task to the prior study.

The contractor shall work with stakeholders in San Miguel county (EPA will provide contact details) to determine waste collection schedules and other pertinent logistical details including, but not limited to: location, timing, available measurement or weighing devices, and volunteer or subcontractor staff availability to perform the waste characterization and assessments using the developed protocol.

The Characterization and Data Collection Plan shall contain details of all scales and other weighing and measurement devices required for Characterization and Assessment. Calibration certificates (if applicable) shall be provided to EPA prior to any characterization and assessment activities.

The Characterization and Data Collection Plan shall specifically address health and safety concerns associated with a “dumpster diving” style waste audit exercise. The Plan shall list required PPE gear and associated minimum safety standards for each piece of required equipment. At a minimum, steel-toed boots, eye protection, and cut-resistant gloves shall be equipped at all times by all staff, volunteers or sub-contractors engaged in waste characterization and assessment. The Characterization and Data Collection Plan shall include daily checks of all required PPE gear by the Contractor Staff overseeing the assessment/ characterization activities. If appropriate and as needed, all audit participants will be participate in minimum safety training to address any specific health and safety concerns with performing this audit.

The contractor shall deliver a Characterization and Data Collection Plan to EPA containing these details and the characterization protocol at least 30 days in advance of the first scheduled characterization and assessment period.

Task 1.3: Data Collection and Evaluation

Perform a waste characterization and assessment using the protocol developed in 1.2 during peak ski season and during a non-peak season (i.e. spring, after ski season is finished). A minimum of two assessments will be performed. A third assessment during summer peak season will also be considered dependent on schedule and should be costed as an optional extension. The contractor shall produce a short written report on the results and all associated data files in MS Excel format.

Task 1.4 Production of Final Report

The contractor shall produce a report detailing findings from the waste characterization and assessment exercises and provide answers to the research questions listed above. The report shall contain a comparison of data collected in Task 1.3 to relevant figures in the *Sneffels Waste Diversion Planning*

Project report. The contractor shall work with relevant project stakeholders to analyze the data collected in Task 1.3, and to identify a set of preferred and workable options for reducing food waste and improving recycling rates for condo rentals. An on-site meeting would be ideal for this purpose but is not required if schedules do not permit it. The contractor shall ensure that stakeholder feedback is strongly reflected in the options or recommendations listed in the Final Report. The Final Report shall include the outputs from tasks 1.1-1.3.

List of Deliverables:

1. Site Characterization Report
2. Characterization Protocol and Data Collection Plan
3. Data Sets and Report on Data Collection
4. Final Report

Task 2

Background

This task proposes the following outcome: a national data set of food rescue organizations that can be added to EPA's Excess Food Opportunities Map.

The EPA recently published the Excess Food Opportunities Map (Version 1.0). The purpose of this national interactive map is to support diversion of excess food from landfill by providing spatial information about potential generation of excess food, including sources and magnitude, and potential recipients.

Version 1.0 of the map provides information about (1) more than 500,000 potential generators of excess food, such as food processors and manufacturers, grocery stores, hospitals, schools, and prisons; (2) about 4,000 recipients, which include composting and anaerobic digestion facilities and food banks; and (3) 100 communities with source separated organics collection services.

Users of the map can use the information in the map to see where they could potentially obtain excess food that could be composted or anaerobically digested, fed to livestock, or donated to food banks and food rescue organizations to feed people. Businesses that generate excess food can use the map to see where they could send their excess food instead of having it hauled to a landfill or combustion facility. Entrepreneurs who want to start a composting or AD business could use the map to determine where there is a lot of feedstock and not a lot of facilities already. Governments and other organizations can use the map to determine the spatial extent of excess food in their communities, to help make connections between businesses and organizations. EPA also has an accompanying technical methodology explaining sources of data and how the excess food estimates for each establishment were derived, and all the data sets can be downloaded, so users of the map can also use the methodologies and data to do their own excess food quantification work.

The current version 1.0 of the Map includes over 300 Feeding America food banks (EPA received data directly from Feeding America). However, this represents a very small percentage of food rescue/hunger fighting organizations in the U.S. and in some geographic areas, the closest Feeding America food bank is too far away to be a feasible option for a business to donate food to. Food rescue organizations are those that rescue, glean, transport, prepare, and distribute food to the needy in their communities; they are also called hunger fighting organizations. They include food banks, food pantries, soup kitchens, and homeless shelters, and by some estimates, there may be around 60,000 of these organizations around the country. EPA has received feedback from some food rescue organizations that they would like to be added to the map and EPA agrees that the map would be much more useful if this sector were better represented. Adding them to the map will allow anyone to see location and contact information of organizations where they could donate food. EPA has not been able to find a readily available national data set of food rescue organizations that could easily be used to create a data set for the Map.

Specific Tasks

Task 2.1

The contractor shall research sources of data from which to obtain names, addresses, and contact information for food rescue organizations in U.S. states, territories, and Washington, DC. Examples of sources of data include Hoover's (e.g., NAICS code 624210 Community Food Services),

<https://www.foodpantries.org/>, <http://www.findafoodpantry.org/>, <https://sustainableamerica.org/foodrescue/>, <http://ampleharvest.org/donate-food/>, and other sources and data sets that the contractor finds (for example, some municipalities, counties, or states may publish lists of these organizations in their geographic region) or that are provided by EPA. The contractor shall produce a short memo summarizing the available sources of data and how they will be used to compile the data set.

Task 2.2

The contractor shall compile a national data set of food rescue organizations, pulling from available and up-to-date sources of data. The contractor shall seek to include the most up-to-date data and include only organizations that are currently operating. The data set shall be in MS Excel format, and will include the following fields: name, NAICS code description, NAICS code, facility type, website, phone number, address, city, county, state, zip code, and lat/long (where possible).

Task 2.3

The contractor shall keep track of which sources of data it has evaluated, which sources it has used, how it obtained the data, and how it endeavored to ensure that the data are up to date. The contractor shall make recommendations to EPA on how to update the data set regularly (i.e., every 1-2 years). The contractor shall produce a short written report of its methods that includes this information.

List of Deliverables

- 1) Memo on sources of data and methods of compiling data set
- 2) National food rescue organization data set
- 3) Report on research methods

V. SCHEDULE/DELIVERABLES

Task	Deliverables	Dates
0. Ongoing	1) Workplan 2) Monthly Progress and Financial Reports	1) 20 days after receiving WA 2) Monthly
1.	1) Site Characterization Report 2) Characterization Protocol and Data Collection Plan 3) Data Sets and Report on Data Collection 4) Final Report	1) 20 days after receiving WA 2) No later than January 15, 2019 3) No later than July 30, 2019 4) No later than July 31, 2019
2.	1) Memo on sources of data and methods of compiling data set 2) National food rescue organization data set 3) Report on research methods	1) No later than January 31, 2019 2) No later than July 31, 2019 3) No later than July 31, 2019

VI. REPORTING REQUIREMENTS

Monthly Progress Reports (including a progress evaluation discussion)

Financial Reports

Project-Specific Reports

VII. GREEN MEETINGS AND CONFERENCES

The contractor shall follow the provision of EPA prescription 1523.703-1, *Acquisition of environmentally preferable meeting and conference services (May 2007)*, for the use of off-site commercial facilities for an EPA event, whether the event is a meeting, conference, training session, or other purpose.

Environmental preferability is defined at FAR 2.101, and shall be used when soliciting quotes or offers for meeting/conference services on behalf of the Agency.

VIII. CONFERENCES AND WORKSHOPS

The tasks under this work assignment do not require the acquisition of "off-site" facilities for conferences and meetings as defined in the IPN 12-05. AND the events associated with this work assignment are not covered by EPA Order 1900.3 and do not require EPA Form 5170.

The contractor shall immediately alert the WACOR to any anticipated event under the work assignment which may incur an estimated cost to EPA of \$20,000 or more, specific to that event, meeting, training, etc. Those costs would include travel of both prime and consultant personnel, planning and facilitation costs, AV and rental of venue costs, etc. The EPA WACOR will then prepare for approval the internal paperwork for the event and will advise the contractor when appropriate signatures have been

obtained. At that point, effort can proceed for the event. If the event is being sponsored by another EPA organization, the organization providing the planning is responsible for the approval.

Any event which meets the definition of a “conference,” with total net expenditures greater than \$20,000, is required to submit EPA Electronic Form 5170 and Form 5170-A (with cost estimates/actuals). In the case the workflow system is down and CORs require emergency approval, they can submit EPA Form 5170 (PDF) (2pp, 93K) (with cost estimates) to conference@epa.gov.

IX. SOFTWARE APPLICATION AND ACCESSIBILITY (SECTION 508 REHABILITATION ACT AND AMENDMENTS)

Software Application files, if delivered to the Government, shall conform to the requirements relating to accessibility as detailed to the 1998 amendments to the Rehabilitation Act, particularly, but not limited to, § 1194.21 Software applications and operating systems and § 1194.22 Web-based intranet and internet information and applications. See: <http://www.section508.gov/>

- Preferred text format: MS Word, 8.0 or higher (Office 2007 or higher)
- Preferred presentation format: Power Point, Office 2007 or higher
- Preferred graphics format: Each graphic is an individual GIF file
- Preferred portable format: Adobe Acrobat, version 6.0

The WACOR shall identify which of delivered products will require 508 compliance.

QUALITY ASSURANCE SURVEILLANCE PLAN for WSD's Mission Support

Quality Assurance Surveillance Plan

The requirements contained in this WA are considered performance-based, focusing on the Agency's desired results and outcomes. The contractor shall be responsible for determining the most effective means by which these requirements will be fulfilled. In order to fulfill the requirements, the contractor shall design innovative processes and systems that can deliver the required services in a manner that will best meet the Agency's performance objectives. This performance-based requirement represents a challenge to the contractor to develop and apply innovative and efficient approaches for achieving results and meeting or exceeding the performance objectives, measures, and standards described in Attachment 4 of the contract. The Contractor's performance will be reflected in the positive or negative evaluation offered by the Agency in the Contractor Performance Evaluation (CPE) which is evaluated annually (per the “Contractor Performance Evaluation” clause in the contract). The WACOR shall submit a complete annual review of the areas outlined in the Quality Assurance Surveillance Plan (QASP), included in the contract, which will then be utilized by the Contract Level Contracting Officer's Representative (CLCOR) in preparing the overall evaluations submitted annually in response to the CPE requirements in the contract.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 03-16				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-15-012			Contract Period 08/01/2015 To 07/31/2019 Base Option Period Number 3			Title of Work Assignment/SF Site Name NCEA Websites & Databases				
Contractor CSRA LLC					Specify Section and paragraph of Contract SOW 2.0, 2.2, 2.3, 2.4, 2.10, 2.15, 2.17, 3.1.2, 3.13					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance From 08/01/2018 To 07/31/2019				
Comments: In accordance with clause B.1 of the contract, immediate start is hereby approved for this work assignment beginning on August 1, 2018. If the work plan is not approved within 35 calendar days after receipt of the work plan, the contractor shall stop work.										
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1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
08/01/2015 To 07/31/2019				0						
This Action:				4,100						
Total:				4,100						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee		LOE:				
Cumulative Approved:				Cost/Fee		LOE:				
Work Assignment Manager Name Maureen Johnson <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 703-347-8611 FAX Number: 305-425-8314				
Project Officer Name Nancy Parrotta <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-564-5260 FAX Number:				
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:				
Contracting Official Name Donna Reinhart <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2114 FAX Number:				

PERFORMANCE WORK STATEMENT
CSRA EP-C-15-012
Work Assignment No. 03-16
Period of Performance: 8/1/18-7/31/19

I. ADMINISTRATIVE:

A. Title: Support for the NCEA Websites and Databases

B. Work Assignment Manager:

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C. Quality Assurance:

The tasks in this work assignment do not require environmental measurements. Consistent with the Agency's quality assurance (QA) requirements, the contractor does not need to supplement the Contract Level Quality Assurance Project Plan (QAPP) or to prepare a Project-Specific Quality Assurance Project Plan (PQAPP). The contractor shall immediately notify the Project officer of any significant QA issues, and how they are being resolved addressed, in the monthly progress reports as specified below under Task 0.

D. Background:

The U.S. Environmental Protection Agency (EPA or Agency) has established the National Center for Environmental Assessments (NCEA) to provide the public with access to the best science in the form of research products related to human health and ecological risk assessments. On target with this, one of NCEA's critical goals is to support the ORD Research Priorities, these are new robust research programs that in varying levels of need, depend on the strong presence of NCEA's websites like the Exposure Factors Program/Hand Book and tool box (EPA-Expo-Box), the Benchmark Dose Software (BMDS), the Casual Analysis/Diagnosis Decision Information System (CADDIS), the Provisional Peer-Reviewed Toxicity Values (PPRTVs) database, the Integrated Risk Information System (IRIS) database, the EPA RISK assessment website (which includes links to most of NCEA's products and publications), and various other NCEA websites that include guidance, training, and workshop materials that capture the full portfolio of NCEA's outreach initiatives.

II. OBJECTIVE:

The primary goal of all these systems and web sites is to enhance preparedness, utility and business resiliency, detection, response, and recovery efforts relative to assessing risk in the environment, vulnerabilities, and threats if a natural calamity or incident occurs. Additionally, NCEA seeks innovative ways to distribute information to the targeted audience by utilization of emerging technologies especially in the area of Web 2.0. This not only allows NCEA to be more “green” in cutting back on the less environmentally friendly methods of communications, but also to demonstrate its alignment with the administration’s goals of making agency services and information more accessible to citizens so they can see value in their government.

Risk Assessment is one of the key areas of environmental protection all agency programs focus on and each of the systems mentioned above have a strong tie to assessments of water quality and human health. In each of these programs, NCEA seeks the best way to get information out to the correct and varied target audiences from our websites. We also require support for the dissemination of guidance and information related to the understanding of climate change impacts, adaptation, and mitigation measures within the mission of EPA.

The purpose of this work assignment is to: support new projects, on-going maintenance and long-term operation of all NCEA websites and databases in support of communicating, educating, and sharing the mission of the NCEA and the EPA. NCEA is the principal organization for production of EPA’s reports on human health and ecological risk assessments in the Office of Research and Development. Therefore, it is imperative that NCEA’s websites offer streamlined pathways (quick easy to use, task oriented and topical) to this research, models, and data technology. Based on our annual website statistics it is evident that NCEA’s websites (and dynamic databases driving them) are critical to supporting thousands of researchers all around the world.

The expectations of this work assignment is for improved designs of the NCEA websites and database to meet our stakeholders and external (and internal) needs while complying with the latest Agency web guidance and web initiatives. To that end, this work assignment requires improvements to the NCEA websites that will incorporate the agency’s OneEPA web template design efforts, reduce any redundant, outdated content (referred to by the EPA web-guide as “ROT”) on the website, and reduce the cost of maintenance and development on these sites through the use of new technology and Agency approved software.

The tasks described in this work assignment will outline the steps necessary to achieve the work assignment’s goals. Working together, the various tasks will complement one another to produce a more efficient, cohesive public experience that will improve the usefulness of the these NCEA websites and support the business processes of the NCEA staff and divisions.

This work will be completed commensurate with Sections 3.2 and 3.4 of the Contract Level PWS. The level of effort estimated for this work assignment is **4100 hours**.

To achieve this outcome, the contractor shall be expected to provide:

- 1) Operation and maintenance of the NCEA Database(s).

2) Development and maintenance of the NCEA websites based on Agency guidance, program changes, and new technology.

3) Web analytics for site usability/enhancement and improved design.

4) Technical support by a Subject Matter Expert (SME) with expertise to provide guidance on areas of toxicology (as it pertains to the IRIS, RISK and PPRTVs sites), database design or website training/development.

Requirements

In order to perform the work under this work assignment the contractor should have:

- 2 or more staff members who have accounts on Drupal.org and provide their user ID's in order to verify this work experience/activity in the Drupal forum environment. They also need to have a minimum of 4 years of experience with either managing a large-scale web site in Drupal or with engineering in a Drupal environment.
- 2 or more staff members on this work assignment who have accounts on EPA's Web mailing list or Editors-in-Chief mailing list to be knowledgeable with the EPA Web guidelines and standards of development. They should also have 1-2 years of experience with EPA's Drupal environment and have experience with the editor and webmaster roles in order to complete the task directives within this work assignment.
- 1 or more staff members on this work assignment with 2 or more years of experience in the following technologies: MySql Database Administration, Oracle Database Administration, Oracle Application Development, ColdFusion Application Development, JavaScript coding, and integrating dynamic application development with a Drupal website.
- 1 or more staff members with a Master's degree or higher in toxicology to provide guidance and input as needed for the IRIS, PPRTV and RISK websites.

The contractor should have staff that are skilled with the Drupal Web Content Management System (WCMS) software to have the ability to articulate design enhancements to the EPA Design Team (Office of Web Communication and Office of Environmental Information) in order to help improve the experience of visitors to the EPA websites under this work assignment.

III. TASK DETAIL:

The contractor shall perform the following tasks:

Task 0 - Work Plan Submission, WA Management and Reports:

The contractor shall prepare a detailed work plan and budget for the accomplishment of the indicated tasks in accordance with the clause Work Assignments (EPAAR 1552.211-74). The work plan shall include a schedule, staffing plan, level of effort (LOE), and cost estimate for

each task, the contractor's key assumptions on which staffing plan and budget are based, and qualifications of proposed staff. If a subcontractor(s) is proposed and subcontractors are outside the local metropolitan area, the contractor shall include information on plans to manage work and contract costs.

In addition, the work plan specifies that a Supplemental Project Specific Quality Assurance Project Plan (SQAPP) appending the Contract QAPP or a PQAPP is not required.

This task also includes monthly progress and financial reports. Monthly financial reports must include a table with the invoice LOE and cost amount broken out by the tasks included in this WA. In addition, this table should provide costs and estimates at the sub-task level and have the capability to track costs to the type of work performed. It is recommended that all costs associated with projects and/or work requests shall be reported in the monthly report as well as at an aggregate level. The work plan shall also provide an analysis of the existing and projected constraints, and the feasibility of accomplishing the project's purpose.

Secondly, the contractor shall participate in bi-weekly meetings to discuss open work requests under the various task in this work assignments, get technical clarification, or discuss any issues that may have come up since the assignments were given. As a result of these meetings, the contractor will submit meeting minutes with a list of assignments, and then at the end of the month, submit these as part of the monthly progress report. Assignments should be completed within a month or documented why there are delays.

The purposes of the progress reports are to list completed deliverables and accomplishments. The monthly report can also include details on the finished assignments, the steps toward completing the larger tasks as they are done, any problems they may have encountered, or any changes in the schedule for completing the work request. The contractor shall continually review the types of work requests that are assigned and propose improvements, striving to implement efficiencies in performance when complimentary requirements are issued or the process can be improved in the work that is done. The contractor shall assure that duplication of effort relative to other ongoing work assignments under this contract is not occurring.

Lastly, the contractor shall immediately alert the EPA WACOR to any anticipated event under the work assignment which may result in incurring an estimated \$20,000 or more cost, funded by EPA, specific to that event (e.g., meeting or training). Those costs would include travel of prime and consultant personnel, planning and facilitation costs, audio/visual, and rental of venue costs. The EPA WACOR will prepare approval internal paperwork for the event and will advise the contractor when appropriate signatures have been obtained. At that point, effort can proceed for the event. If the event is being sponsored by another EPA organization, the organization providing the planning is responsible for the approval.

Deliverables: Work plan and monthly progress and financial reports.

Task 1 - Operations and support for the NCEA Databases:

With the vast number of reports, tools and websites that NCEA uses to serve content to the public we use several Oracle backend databases to manage many of these products. This first task will require the support, operation and maintenance of these databases. In addition, to database administration (adding users, managing roles, writing SQL scripts for database updates), the contractor will need to also maintain data entry screens for the EPA's maintenance of the content stored in these back-end systems. The current interfaces to these databases is through ColdFusion based Administration systems.

Sub-Task 1.1: Support of the NCEA Tables Residing in the EIMS Database

Support of this database includes on-going operations and maintenance to include, but not be limited to: new table development, retirement of tables/removal, data entry form improvements, system integration for better quality control, link checking, improved searching methods, exports, uploads, downloads, web analytics, or archiving retired content.

Sub-Task 1.1.1 Support for the RISK Application

Provide database administrative or dynamic application development (to front-end software to an Oracle database) for the RISK website and application. Provide operation and maintenance per specifications outlines in sub-task 1.1.

Sub-Task 1.1.2 Support for the EPA-Expo-Box Application

Provide database administrative or dynamic application development (to front-end software to an Oracle database) for the Expo-Box application. Provide operation and maintenance per specifications outlines in sub-task 1.1.

Sub-Task 1.1.3 Support for the EPA-Eco-Box Application

Provide database administrative or dynamic application development (to front-end software to an Oracle database) for the Eco-Box application. Provide operation and maintenance per specifications outlines in sub-task 1.1.

Sub-Task 1.1.4 Support for the Climate Change Applications

Provide database administrative or dynamic application development (to front-end software to an Oracle database) for any of the NCEA Climate Change Applications. Provide operation and maintenance per specifications outlines in sub-task 1.1.

Sub-Task 1.2: Support for the Integrated Risk Information System (IRIS) Database

Support of this database includes on-going operations and maintenance to include, but not be limited to: new table development, retirement of tables/removal, data entry form improvements, system integration for better quality control, link checking, improved searching methods, exports, uploads, downloads, web analytics, or archiving retired content.

Sub-Task 1.3: Support for the Provision Peer-Reviewed Toxicity Values (PPRTVs) Database

Support of this database includes on-going operations and maintenance to include, but not be limited to: new table development, retirement of tables/removal, data entry form improvements, system integration for better quality control, link checking, improved searching methods, exports, uploads, downloads, web analytics, or archiving retired content.

Sub-Task 1.4: Support for the Casual Analysis Diagnosis Decision Information System (CADDIS) Database

Support of this database includes on-going operations and maintenance to include, but not be limited to: new table development, retirement of tables/removal, data entry form improvements, system integration for better quality control, link checking, improved searching methods, exports, uploads, downloads, web analytics, or archiving retired content.

Deliverables: Scripts should be sent to the administrators in the NCC. The WACOR should be copied on all correspondence with the system administrators. Exports from the databases may be in the form of spreadsheets, scripts, or Oracle exports and should be sent directly to the WACOR and accounted for in the monthly progress reports.

Task 2 - Development to the NCEA websites based on Agency guidance, program changes, and new technology:

The contractor shall provide the following as it pertains to products from NCEA program:

- Provide maintenance for the NCEA Web sites, which includes site updates as necessary to comply with ORD and Agency Web requirements, and/or changes in the EPA server environment or in the supporting database(s).
- Provide other modifications or enhancements as specified in Technical Directives (TDs) throughout the period of performance, including enhancements of selected Drupal pages, addition of new static and dynamic web pages, and redesign of selected pages to:
 - Fulfill the mission of the Agency and any related Web initiatives
 - Improve the performance of the site,
 - Comply with Section 508 for Accessibility, and
 - Improve the usability based on recommendations from NCEA, ORD or Agency stakeholder feedback.
- Provide Section 508 compliant reports (in PDF format) for posting on the NCEA websites and databases.
- Verify Section 508 compliance of products generated from within NCEA.
- Provide support in the review the site for broken links, redundant, outdated, trivial (ROT) content, usability/focus groups, and other EPA initiatives to improve the function of the website.

The contractor shall be responsible for maintaining the NCEA Internet (and in some cases Intranet) websites and performing any related web support as requested. This task includes the following sub-tasks:

Sub-Task 2.1, Support for the Causal Assessment (CADDIS) Website

All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages shall be consistent with ORD and Agency policies regarding the appearance, format,

standards and function of Internet and Intranet web pages. Additionally, the web pages on the CADDIS websites shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This includes providing support to the following website(s), but it may include the waters of the US, mountaintop mining, conductivity, hydrofracking, and other ecological risk assessments topical websites sponsored by NCEA:

- <http://www.epa.gov/caddis> (or any future aliases this may be called)
- <http://www.epa.gov/bristolbay>
- <http://www.epa.gov/hf-study>

Sub-Task 2.2, Support for the EPA Climate Change/Adaptation Website(s)

All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages in this web area shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages on any of the NCEA (Climate Change) websites shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This includes providing support to the following website(s):

- <https://www.epa.gov/risk/global-change-research-program-products-and-publications> (or any future aliases this may be called)
- <https://www.epa.gov/climate-research> (or any future aliases this may be called)
- <https://www.epa.gov/ccwqa> (or any future aliases this may be called)

Sub-Task 2.2.1, Support for the Integrated Climate Land-Use (ICLUS) Website

All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages on the ISA website shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This includes providing support to the following website(s):

- <http://www.epa.gov/iclus> (or any future aliases this may be called)
- <https://globalchange.epa.gov> (or any future aliases this may be called)

Sub-Task 2.2.2, Support for the Traits Database and Website

All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications

will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages on the ISA website shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This includes providing support to the following website(s):

- <https://www.epa.gov/risk/freshwater-biological-traits-database-traits> (or any future aliases this may be called)

Sub-Task 2.3, Support for the EPA Expo-Box (Expo-box) Website

All new and major revisions to Drupal web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages on the Expo-Box website shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This sub-task includes providing support to the following website(s):

- <https://www.epa.gov/expobox> (or any future aliases this may be called)

Sub-Task 2.4, Support for the EPA-Eco-Box (Eco-box) Website

All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages on the Eco-Box website shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This includes providing support to the following website(s):

- <https://www.epa.gov/ecobox> (or any future aliases this may be called)

Sub-Task 2.5, Support for the Integrated Science Assessments (ISA) Website

All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages on the ISA, HERO or HAWC websites shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This includes providing support to the following website(s):

- <http://www.epa.gov/isa> (or any future aliases this may be called)
- <https://hero.epa.gov/hero/> (or any future aliases this may be called)
- <https://hawc.epa.gov/hawc> (or any future aliases this may be called)

Sub-Task 2.6, Support for the Integrated Risk Information System (IRIS) Website

All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages on the IRIS websites shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This includes providing support to the following website(s):

- <http://www.epa.gov/iris> (or any future aliases this may be called)
- <http://intranet.epa.gov/ncea/iristrack/index.htm> (or any future aliases this may be called)
- <https://cfint.rtpnc.epa.gov/ncea/iristrac/index.cfm>

Sub-Task 2.7, Support for the Provision Peer Reviewed Toxicity Values for Superfund (PPRTVs) Website

All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages on the PPRTVs website shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This includes providing support to the following website(s):

- <https://www.epa.gov/pprtv> (or any future aliases this may be called)

Sub-Task 2.8, Support for the Risk Assessment (RISK) Website

All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages that are part of this website shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages on the RISK website shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This sub-task includes providing support to the following website(s):

- <https://www.epa.gov/risk> (or any future aliases this may be called)

Sub-Task 2.9, Support for the Report on the Environment (ROE) Website

All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages supporting the ROE website shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This includes providing support to the following website(s):

- <https://www.epa.gov/report-environment> (or any future aliases this may be called)
- <https://www.epa.gov/roe>
- <https://cfpub.epa.gov/roe>

Sub-Task 2.10, Support for Other NCEA Website

This task is for minor updates to other NCEA web site on an as-needed basis to make these sites compliant or include a new feature. It is assumed that anything requiring substantial support would otherwise require a MOD to generate a new sub-task for this. All new and major revisions to web pages will be reviewed and tested by the contractor, then by the content provider and/or the WACOR. Routine or enhanced modifications will be tested by the contractor, before they are sent to the WACOR for review prior to deployment. All web pages shall be consistent with ORD and Agency policies regarding the appearance, format, standards and function of Internet and Intranet web pages. Additionally, the web pages supporting these other NCEA website shall not compromise the security procedures enforced through the NCC facility in RTP, NC.

This includes providing support to the following website(s):

- <http://www.epa.gov/bmds>
- <http://www.epa.gov/dioxin> (or any future aliases this may be called)
- <https://www.epa.gov/erasc> (or any future aliases this may be called)
- <https://www.epa.gov/aboutepa> (as it related to NCEA pages)
- <https://www.epa.gov/healthrisk> (or any future aliases this may be called)
- <https://www.epa.gov/human-health-risk-assessments-hhra> (or any future aliases this may be called)
- <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=20563> (exposure factors program)

Sub-Task 2.11, Support for the Development of New NCEA Websites

The contractor shall be responsible for overseeing updates to the NCEA web sites (listed above) by adhering to the EPA Web guidelines at <http://www.epa.gov/webguide>. The

contractor may be asked to make updates to these based on new technology or EPA Web Guidance as new direction becomes available. Specifically, this task may provide contractor support to provide a range of strategic communications and outreach requests to develop new features to our web sites and databases based on the newest technologies that EPA Web is considering. Code re-use is recommended with any enhance that may affect our web sites.

This task may include the evaluation of Web 2.0 technology to include but not be limited to:

- Development of the NCEA web sites in the newest Agency Web standards and technology, utilizing efficiencies of the latest Web 2.0 technology/applications.
- Development of media (YouTube, podcasts, etc.) to promote the information of NCEA's research.
- Development of on-line training or support web sites for webinars to promote the information of NCEA research.
- Use of XML, Drupal, Twitter, Govdelivery, Blogging, or RSS feeds to promote the use of NCEA research to a wider audience.
- Development of web sites or databases using more sustainable solutions (with technology).
- Development of improved integration and sharing with like systems/databases across Government-wide platforms, in an effort to support data sharing or access via open data initiatives (like NSCEP, SEMS, SI, NARA, Science-Hub, e-Chem portal, Data.gov, etc.).

Deliverables: The contractor shall provide updates to the websites under Task 2 as needed, copying the WACOR on all correspondence regarding major deliverable in the monthly progress report. For estimating purposes only, the contractor shall assume they will provide quarterly reviews and corrections for missing metadata, broken links and ROT on all NCEA Websites; develop & implement improvements or updates to a minimum of two websites annually to a maximum of six websites; and will prepare a minimum of 50 to a maximum of 900 PDFs for posting.

The contractor shall provide Monthly Progress Reports outlining any work performed under this task.

Task 3 - Web Analysis and Summary Reports:

The contractor may be asked to provide two (2) reports produced by analyzing EPA's Web Analytics (<https://www.epa.gov/web-analytics>) for NCEA web sites that would include (1) the results of these tools, and (2) CSRA's recommendations for improvements to be implemented as part of Task 2. This means they will:

- Provide a summary report with information on web site analysis using EPA's tools (Google Analytics, Sitebeam, etc.) as listed on the page <https://www.epa.gov/web-analytics>.
- Perform web site usability testing to improve the use of the site and develop personas for site usage design.
- Provide link checking reports, fix broken links and note external links (as outlined in the webguide) on all the NCEA web sites pages.

Deliverables: The contractor shall provide a consolidated report with these results as a MS Word file and as a 508 compliant PDF. These reports should include web usage statistics (graphs) for all these web sites listed in task 2 and include any other related data. For estimating purposes only, the contractor shall assume they will provide (2) comprehensive reports; they will perform 1 -2 usability tests on the web sites defined in Task 2 using EPA analytical tools listed above; and will make recommendations in theses report that should improve the statistics to these sites by a minimum of 12% over the course of a year.

The contractor shall include in the Monthly Progress Report any work performed under this task.

Task 4 - Technical Consulting:

The contractor shall provide technical Subject Matter Expert (SME) support with expertise to provide guidance on areas of toxicology (when needed), website development, and database administration.

The contractor shall be responsible for providing individual subject matter experts (SME) with expertise to provide technical support in the following areas (on a case-by-case basis):

- Toxicology (Risk Assessment, Dose-response, Hazard Identification, IRIS Assessments, etc.)
- Database Administration and Development (Ajax, Apex, Oracle, Access, SQLplus, MySQL, Solr API, etc.)
- Website Development (Drupal, JavaScript, APIs, PHP, Sharepoint, 508 compliance, etc.)

Under this task the SME may be asked to provide a technical review on any new technology to the website or database design issue related to operating NCEA's websites. This may also include migrating new web products for the NCEA websites (see listed in Task 2) to the EPA environment, database development support, or any website improvements. Technical review/commenting/editing may be necessary before new websites are released to the public.

SME's with a toxicological background will be asked to review implications of updates or improvements in relation to the IRIS website and databases.

Deliverables: The contractor shall provide written correspondence to the WACOR on anything related to this task. For estimating purposes only, the contractor should assume the SME may be asked to attend at a minimum two face-to-face discussions (to a maximum of 25 phone-based technical issues discussions) about the improvements discovered in Tasks 1-3.

The contractor shall include in the Monthly Progress Report any work performed under this task.

IV. SCHEDULE OF DELIVERABLES:

Specific deliverables, by Task, are detailed in the table below. All work will be determined by

technical direction.

The contractor should plan to attend bi-weekly meetings with the WACOR to review work assignments (outlined in the TDs) to discuss details of the work, clarification of requirements, and schedule of deliverables. Anything agreed in these discussions should be documented by the contractor and emailed to the WACOR for confirmation. All deliverables and schedules should be listed in the progress report for official notification of receipt from the EPA.

TASK No.	DELIVERABLE	DATE DUE TO EPA
Task 0 - Workplan Submission		
	Workplan and budget	According to contract
	Monthly progress reports	Monthly
Task 1 – Database Support		
	System scripts & exports	As requested
	Web Analytics	Monthly
Task 2 – Website Support		
	Standard Template Web Design and Development in Drupal	To be determined by written technical direction; an exact date cannot be determined prior to task assignments and management priorities.
	PDF production and 508 Verification	
	Customized Design/ embedded Java as needed	
	Graphic Design	
	PDF-rework	
	Web site staging and deployment	
	Training	
	Reporting on broken links, usability, web analytics	

Task 3 – Web Analytics		
	Run analysis on the web sites listed above (in Task 2) through the EPA's Web Analytics tool suite for review and reporting.	Quarterly
	Summary reports of results should include underlining data and contractor's analysis/recommendations.	As requested

Task 4 – Technical Consulting	
Document assistance and scientific / technical support	To be determined by written technical direction; an exact date cannot be determined prior to receiving stakeholder or management feedback
Support international coordination (attend up to 6 webinars)	
Support for utility SMEs (up to 5 trips)	

V. MISCELLANEOUS:

Software Application Files and Accessibility:

Software application files, if delivered to the Government, shall conform to the requirements relating to accessibility as detailed to the 1998 amendments to the Rehabilitation Act, particularly, but not limited to, § 1194.21 Software applications and operating systems and § 1194.22 Web-based intranet and internet information and applications. See:

<http://www.section508.gov/>

Regarding FITARA, online publications of maps will leverage EPA's GeoPlatform technical architecture, hardware and software, to the fullest extent possible for public search and discovery. Quality assurance and metadata support should adhere to Agency approved Geospatial procedures and standards, see: <https://www.epa.gov/geospatial/geospatial-policies-and-standards>. All geospatial metadata will, as required by OMB, be published in EPA's Environmental Data Gateway which serves Data.gov, see: <https://edg.epa.gov/metadata/catalog/main/home.page>

Preferred text format:	MS Word, 16.0 or higher (Office 2013 or higher)
Preferred presentation format:	Power Point, Office 2013 or higher
Preferred graphics format:	Each graphic is an individual JPG or GIF file, or Adobe Illustrator file
Preferred portable format:	Adobe Acrobat, version DC or higher
Preferred technology:	Drupal, SharePoint, ColdFusion, Apex, Oracle, JavaScript, PHP, Jira, Solr

All products delivered under this work assignment will require 508 compliances (unless an exception is made) and will include metadata for websites developed or PDFs posted to the EPA Website per the EPA web guidance standard (see <http://www.epa.gov/webguide>).

Reporting Requirements:

- Monthly Progress Reports (including a progress evaluation discussion)
- Financial Reports (with table of task and sub-task totals).

VI. TRAVEL:

The contractor shall anticipate no more than two to four face-to-face trips and two (2) SME trips in support of this WA over the duration of the performance period. Travel will be directly related

to the scope of this Work Assignment and support advancement of the work under these Tasks as well as the EPA's Mission to ensure protection of human health and the environment.

VII. MEETINGS, CONFERENCES, TRAINING EVENTS, AWARD CEREMONIES AND RECEPTIONS:

All appropriate clearances and approvals required by Agency policy in support of any and all conference related activities and expenses, including support of meetings, conferences, training events, award ceremonies and receptions, including the form 5170 for all meetings costing more than \$20,000, shall be obtained by the EPA CL-COR as needed and provided to the Contracting Officer (CO). Work under conference related activities and expenses shall not occur until this approval is obtained and provided by the EPA CL-COR.

VIII. CONTRACTOR IDENTIFICATION:

Contractor personnel shall always identify themselves as contractor employees by name and organization and physically display that information through an identification badge. Contractor personnel are prohibited from acting as the Agency's official representative. The contractor shall refer any questions relating to the interpretation of EPA policy, guidance, or regulation to the CO, CL-COR and/or WACOR.

IX. PRINTING:

All copying and printing shall be accomplished within the limitations of the printing clause of the contract.

X. TECHNICAL DIRECTION:

The Contract level COR or an authorized individual is permitted to provide technical direction. Technical direction must be within the statement of work of the contract and includes: (1) Direction to the contractor which assists the contractor in accomplishing the Statement of Work, (2) Comments on and approval of reports or other deliverables. Technical direction will be issued in writing or confirmed in writing within seven (7) calendar days after verbal issuance.

One copy of the technical direction memorandum will be forwarded to the Contracting Officer and the Contract Level Contracting Officer Representative.

XI. QUALITY ASSURANCE SURVEILLANCE PLAN:

The requirements contained in this WA are considered performance-based, focusing on the Agency's desired results and outcomes. The contractor shall be responsible for determining the most effective means by which these requirements will be fulfilled. In order to fulfill the requirements, the contractor shall design innovative processes and systems that can deliver the required services in a manner that will best meet the Agency's performance objectives. This performance-based requirement represents a challenge to the contractor to develop and apply innovative and efficient approaches for achieving results and meeting or exceeding the

performance objectives, measures, and standards in Attachment 4 of the contract. The Contractor's performance will be reflected in the positive or negative evaluation offered by the Agency in the Contractor Performance Evaluation (CPE) which is evaluated annually (per the "Contractor Performance Evaluation" clause in the contract). The WACOR shall submit a complete annual review of the areas outlined in the Quality Assurance Surveillance Plan (QASP), included in Attachment 4 of the contract, which will then be utilized by the Contract Level Contracting Officer's Representative in preparing the overall evaluations submitted annually in response to the Contractor Performance Evaluation requirements in the contract.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 03-18								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-C-15-012	Contract Period 08/01/2015 To 07/31/2019 Base Option Period Number 3	Title of Work Assignment/SF Site Name Impact of Material Mgmt Applic								
Contractor CSRA LLC		Specify Section and paragraph of Contract SOW 2.2, 2.10, 2.16, 2.4								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 08/01/2018 To 07/31/2019								
Comments: In accordance with clause B.1 of the contract, immediate start is hereby approved for this work assignment beginning on August 1, 2018. If the work plan is not approved within 35 calendar days after receipt of the work plan, the contractor shall stop work.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO <input type="checkbox"/> Note: To report additional accounting and appropriations date use EPA Form 1900-69A. (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
08/01/2015 To 07/31/2019				0						
This Action:				4,850						
Total:				4,850						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee		LOE:						
Cumulative Approved:		Cost/Fee		LOE:						
Work Assignment Manager Name Thabet Tolaymat <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2860 FAX Number:				
Project Officer Name Nancy Parrotta <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>						Branch/Mail Code: Phone Number: 202-564-5260 FAX Number:				
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:				
Contracting Official Name Donna Reinhart <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2114 FAX Number:				

**WORK ASSIGNMENT
PERFORMANCE WORK STATEMENT (PWS)**

Contract No. EP-C-15-012

Work Assignment: WA-03-18

WACOR: **Name:** ___Thabet Tolaymat___
 Branch: ___Materials Management Branch___
 Division: ___Land and Materials Management Division___
 Office: ___Office of Research and Development___
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Alt WACOR: **Name:** ___David Carson___
 Branch: ___Materials Management Branch___
 Division: ___Land and Materials Management Division___
 Office: ___Office of Research and Development___
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 FAX: ___513-569-7677___
 E-mail: carson.david@epa.gov
 Mail code: ___116 CHL___
 Street Address: ___26 West Martin Luther King Drive___
 City, State, Zip: ___Cincinnati, Ohio, 45268___

Period of Performance: Award to July 31, 2018

Title: ___ Impact of Materials Management Applications___

PWS Sections: ___2.2, 2.10, 2.16, 2.4___

Level Of Effort: 4,850

I. PURPOSE:

The purpose of this work assignment is to evaluate the impact of sustainable materials management on the environment including groundwater. The project will provide information that would enhance US EPA, states and communities to implement decision making with regards to sustainable materials management.

To achieve this purpose the contractor shall be expected to: evaluate secondary data and conduct virtual and in person meetings with key members of the research community.

The intended audience of this project are EPA's Office of Solid Waste and Emergency Response, regional offices and other federal agencies. This project supports programmatic support needs related to our national all hazards

homeland security responsibilities by: providing data and information that would lead to more accurate accounting of our solid waste management systems and lead to a higher level resiliency in our materials management systems.

Other partners and external offices or agencies which should be included in coordination, and the nature of their involvement, are: EPA's Office of Emergency Response, and EPA Regional Offices

This work assignment supports the mission of the Office of Research and Development Sustainable and Healthy Communities Research as described in the FY16-19 Research Action Plan, which relates resources, activities, outputs, audience, short- and long- term outcomes to EPA's pillars of sustainability. Additionally, this work assignment contributes to the commitments made in EPA's *Strategic Plan: 2011 to 2015* .

In support of these requirements, this contract supports the nation's drinking and wastewater infrastructure, collectively known as the Water Sector, in being informed, coordinated, and prepared to prevent, detect, respond to, and recover from terrorist attack and other intentional acts, natural disasters, and other hazards (referred to as the "all hazards" approach), which may also occur, including the needs and challenges posed by natural disasters, catastrophic events, adaptation and impacts of climate change, floods, earthquakes, pandemic illness, and any other events which impact the safety and availability of our water supply.

In pursuit of these efforts, the contractor may be tasked with preparing a correlation summary comparing the results under this work assignment to the components of the Water Security Strategy framework.

II. BACKGROUND:

Historically, materials management in the United States has been handled through a variety of options that include disposal, recycling, or some form of treatment. Given the increased need to institute waste management practices that are sustainable and acknowledge critical environmental, social, and economic considerations (the three pillars of sustainability, also referred to as the triple bottom line), an examination of well-established as well as emerging waste management methods is warranted to facilitate decision-making.

Regulations that helps manage our nation's solid waste stream are almost 30 years old if not more. Since that time a large volume of data was generated on the performance of these facilities and evaluate their containment robustness into the future.

III. QA REQUIREMENTS:

Tasks two (2) and three (3) in this WA require direct environmental measurements and/or the use of secondary data. Consistent with the Agency's quality assurance (QA) requirements, the contractor has already developed a complete written Project-Specific Quality Assurance Project Plan (PQAPP) as part of a WA under previous option period (WA 01-18). As such the project-specific quality assurance requirements specified under Task 0, below have been addressed. Any amendment(s) to the QAPPs shall conform to EPA requirements for QA Project Plans as defined in "EPA Requirements for Quality Assurance Project Plans" (QA/R-5) (EPA 2001)

IV. DETAILED TASK DESCRIPTION:

All direction under this WA will be provided as written technical direction from the WACOR, Alternate WACOR as appropriate. If provided first as verbal technical direction to the contractor, it will be confirmed in writing within 5 calendar days, with a copy to the Contract Level Contracting Officer's Representative (CL COR) and the Contracting Officer (CO), and is subject to the limitations of the technical direction contract clause. Each initial deliverable shall be provided to the EPA WACOR and EPA CL COR in draft form for review and comment.

The contractor shall incorporate WACOR review comments into revisions of the drafts. All drafts and final reports shall be approved by the WACOR.

The contractor shall perform the following tasks:

Task 0: Work Plan, Progress evaluations, and Monthly Progress Reports

The contractor shall develop a work plan that describes how each task will be carried out. The work plan shall include a schedule, staffing plan, level of effort (LOE), and cost estimate for each task, the contractor's key assumptions on which staffing plan and budget are based, and qualifications of proposed staff. If a subcontractor(s) is proposed and subcontractors are outside the metropolitan DC area, the contractor shall include information on plans to manage work and contract costs. The work plan shall also provide an analysis of the existing and projected constraints, and the feasibility of accomplishing the project's purpose.

In addition, the contractor shall amend the project specific quality assurance plan (PQAPP), if needed, and ensure the quality of secondary data used to complete these tasks. This task also includes monthly progress and financial reports. The monthly progress report shall indicate, in a separate QA section, whether significant QA issues have been identified and how they are being resolved. Monthly financial reports must include a table with the invoice LOE and costs' broken out by the tasks in this WA.

In addition, in each monthly progress report, the contractor shall, at the introduction to the discussion of this WA, discuss actual progress toward achieving the purpose of this WA, including problems encountered, issues that may need to be resolved, and anticipated timing for completing the goals of the WA. The contractor shall provide an overview of contract projects, striving to implement efficiencies in performance when complimentary requirements are issued. The contractor shall assure that duplication of effort relative to other ongoing work assignments under this contract is not occurring

Deliverables: Work plan, PQAPP and monthly progress and financial reports.

Task 1: Programmatic support

The contractor shall provide support for the area of sustainable materials management in terms analysis including the development, editing, and updating as necessary bulletins, advisories, reports, guidance document, fact sheets, and other outreach materials related to the research area. The contractor shall support, assess, summarize and provide reports and project files related to status, strategic planning, cost/benefit and/or economic impact analysis for Sustainable Materials Management initiatives. The number of anticipated initiatives to support is 2.

The contractor shall perform technical peer review of documents and materials related to the topics described in this WA, which were prepared by entities other than the contractor the contractor's team members and consultants. No peer review or review of technical or analytical documents should be undertaken by the contractor on documents, data, or studies contributed to, or completed by the contractor, contractor's team members, or its consultants.

The contractor shall follow all procedures concerning COI and Ethics related to the peer review process outlined in Section 3.4.5 of the EPA's Science Policy Council Handbook on Peer Review, (EPA/100/B-06/002, 3rd Edition) or the most recent rendition of that handbook. The Handbook can be found electronically at the EPA website, <http://www.epa.gov/peerreview> and should be considered the guidance document for all elements of the peer review process.

The specific processes and responsibilities involved with the Peer Review task include:

- Selecting appropriate subject matter experts as peer reviewers and ensuring that they meet the qualification stipulated in the EPA peer Review Handbook;
- Developing the charge to the peer reviewers;
- Providing peer review support to the reviewers, including literature searches and related document
- The contractor will maintain communication with the reviewers to ensure that the charge is clear and that the work is on schedule. In addition, the contractor will establish appropriate mechanisms to provide compensation to the reviewers.
- Providing logistical and facilitation support to the peer review workshop(s) or meeting(s); transcribing, compiling and distributing all post meeting comments, proceedings, and summaries, the cost of the workshop(s) or meeting(s) shall not exceed \$19,000; and
- Providing a final document to the EPA CL COR/WA COR including comments, alternatives, dissenting views, sources relied upon, and recommendations.

The contractor shall is also expected to schedule five (3) person-trips to update the WACOR and other EPA employees in Cincinnati on the progress of the task.

Deliverables:

1. Programmatic support in the area of sustainable materials management upon the technical direction of the WACOR

Task 2: Long-term performance of Subtitle D landfills

In 2002 the EPA published a report “Assessment and Recommendations for Improving the Performance of Waste Containment Systems” EPA/600/R-02/099. Building on this report, there is a need to generate similar type of data and field performance as it pertains to Subtitle D (municipal solid waste landfills). The contractor shall evaluate the field performance of engineered systems (e.g., liners and covers) for at-least ten (10) Subtitle D landfills that are nearing the end 30 years post closure care time regulatory limit. The ten landfill sites will be identified with consultation with the WACOR. This task may involve the contractor traveling to these sites to collect data needed for the completion of the task. The contractor shall evaluate the available information on field performance of these landfills, collect and analyze liquid management data for Subtitle D landfills, Evaluate problems that have occurred in these systems and assess the adequacy of EPA HELP model as a predictor of head on the liner and the LandGEM model as a predictor of gas generation at these sites.

During option period 1, the contractor collected site specific data to evaluate the performance of landfill sites. In option peiord 2 and based on that data, the contractor developed a report evaluating the following aspects of solid waste landfill performance and its impact on water resources. The contractor shall address review comments at the following stages of the report review

1. WACOR Review
2. QA manager’s review
3. Internal Peer-Review (2 reviewers)
4. External Peer-Review (3 reviewers)
5. Program office and States review (not to exceed 100 man hours)

Furthermore, the contractor shall develop a draft manuscript focusing on gas generation from MSW landfills that utilizes data from the GHG reporting rule. The contractor shall also address WACOR review comments and external reviewer’s (3 reviewers) comments

Finally, under this task, the contractor shall develop a draft manuscript evaluating landfill liner performance and leachate collection efficiency. The Contractor shall address WACOR review comments and external reviewer's (3 reviewers) comments.

Data for this report has been collected during option periods 1 and 2. Thus, the contractor is expected to make no more than two (1) person-trips for site visits. The contractor is also expected to schedule three (3) person-trips to update the WACOR and other EPA employees in Cincinnati on the progress of the task.

Deliverables:

1. Draft performance report addressing the 6 categories of reviews stated above.
2. Documents outlining the contractor's response to the reviewers' comments for each of the 6 categories of reviews stated above.

Task 3: Moisture impact on waste decomposition

Laboratory studies suggest that moisture content plays a major role in the decomposition of solid waste. The data shows that waste containing higher moisture decomposes more readily than waste with lower moisture content. While this trend is considered a fact in laboratory studies, field data are not available to support this conclusion. The contractor shall collect and use landfill gas generation data, waste disposal data and rainfall data to develop an approach to evaluate the impact of rainfall on waste decomposition in solid waste landfills around the nation. The contractor shall develop a manuscript based on the approach and shall address the following three stages of review:

1. QA review
2. Internal review (2 reviewers)
3. External peer-review (3 reviewers)

Deliverables:

Draft and final manuscript outlining the impact of moisture on waste decomposition in solid waste landfills.

Task 4: Hydraulic properties of landfill liners

literature review to compile hydraulic properties of geosynthetic materials. HELP model uses hydraulic conductivity of geomembranes, geonets and geotextiles. The contractor shall compile hydraulic conductivity and other pertinent information of the following geosynthetics from up to 5 manufacturers per category:

- 1) Geomembrane
- 2) Geotextile
- 3) Geonets/geocomposite
- 4) Geosynthetic clay liners

The contractor shall also We will conduct a literature review to compile vapor transmission data for 14 geomembrane types. The contractor shall use vapor transmission data to calculate the hydraulic conductivity.

Furthermore, the contractor shall develop an approach manuscript that evaluates the field performance of landfill liners and calculate landfill leachate collection efficiency based on field performance. If possible, the contractors shall use data from both hazardous and non-hazardous landfill sites to evaluate the gas

Deliverables:

1. An excel database of hydraulic conductivity of the types of liners listed above. The contractor shall provide average and the range of hydraulic conductivity values of these geosynthetics.
2. Draft and final manuscript outlining the performance of landfill bottom liners in waste management systems.
3. Final Report

Task 5: MSW landfills leachate quality

The contractor shall compile and analyze leachate quality data available for MSW landfills for at least 6 States.

The contractor shall analyze the data to identify:

1. Contaminants that are not detected above their respective detection limits and the detection frequency
2. Contaminants that are frequently detected above their respective MCL/SMCL. It should be noted that the MCL and SMCL are not regulatory standards for leachate. The contaminants that are consistently detected below the respective MCL/SMCL do not have the potential to pose a risk to human health, so the objective of this evaluation is to identify contaminants that potentially pose a risk to human health.
3. The number of sites that have recorded contaminant exceedances.
4. Frequency analysis (number of sites, number of contaminants, number of exceedances).
5. Box-and-whisker distribution of the contaminants that exceeded more than 50% of times for each site above the respective MCL/SMCL.

Deliverables:

1. A draft and final manuscript discussing the analysis and outlining major conclusions of the study to evaluate landfill leachate quality data.

Task 6. Evaluation of data from elevated temperature landfills

The contractor shall review, analyze and comment on data provided by EPA WACOR for MSW landfills with elevated waste temperatures. The data review shall be conducted to address the following objectives

1. Characterize and understand the current conditions (properties, such as location, boundaries, etc.) of the landfills that can help evaluate the causes of elevated temperature with the understanding that the data currently available may not allow full evaluation.
2. Provide an assessment of the direction of movement and magnitude of elevated temperature zones
3. Determine what data elements are required to achieve items “1 and 2” above as well as what markers should be monitored or measured to determine changes in the conditions of the elevated waste temperatures

The contractor shall summarize the data for no more than 8 landfill sites at the request of the WACOR through a technical directive.

Deliverables:

An internet accessible portal with data showing the progression and extent of the heating within the landfill sites.

Task 7. Literature review of hydraulic properties of various wastes

The contractor shall identify hydraulic properties of various industrial waste products that are outlined below:

1. Auto shredder fluff (<https://wasteindustries.com/landfill/specialwaste>)
2. Secondary aluminum dross
3. Wastewater treatment plant sludges
4. Flue gas desulfurization (FGD byproduct)-power generation
5. Fluidized bed combustion (FBC)
6. Water treatment plant sludge (ferric, iron, alum)

7. Biosolids
8. Wood ash
9. Wood/paper sludges
10. Foundry sands (http://www.michigan.gov/documents/deq/SolidWasteAnnualReport_-_Fiscal_Year_2017_FINAL_612551_7.pdf)
11. Bark ash
12. Cement kiln dust
13. Lime kiln dust
14. Slags (TRB report)
 - a. Iron (several types), steel (several types), Copper, Nickel, Lead, Zinc, and phosphorus
15. High speed steel grinding swarf
16. Contaminated soil (<https://wasteindustries.com/landfill/specialwaste>)
17. Industrial sludge
18. Other sludges

The contractor shall identify the hydraulic conductivity, porosity, pore size distribution, to calculate field capacity and wilting point for these materials.

Deliverables:

1. An excel database with these data for the materials listed above. We will also write a review paper documenting these data.

Task 8: Hydrologic Evaluation of Landfill Performance (HELP) Model

Over the past year, the government has successfully migrated the Hydrologic Evaluation of Landfill Performance Model (HELP) from Fortran 77 to VBA code. The contractor shall develop and enhanced user interface for the Excel-VBA based HELP model. Furthermore, the contractor shall assist the Agency in deploying and debugging the beta version of the software and development of the final references needed to publish the model. l.

Deliverables:

An update interface and a “User Guide” for the HELP model.

V. SCHEDULE/DELIVERABLES

1. Work plan: In accordance with contract terms
2. QAPP(s): Three (3) weeks after TD work plan approval, edits, amendments will occur as the WA needs and requested by the WAOR
3. Progress reports: Delivered to WACOR monthly
4. Progress meetings: Conducted with the WACOR monthly
5. Final Report long-term performance of subtitle D landfills is due to the EPA 4 months after WA approval.
6. Programmatic support in the area of SMM upon the technical direction by the EPA WACOR
7. Draft manuscript “Impact of moisture content on waste degradation” 6 months after

VI. REPORTING REQUIREMENTS

1. Monthly Progress Reports (including a progress evaluation discussion)
2. Monthly Financial Reports

3. Development and or update Project Specific PQAPP as needed for any of the tasks
4. Reports requested by the WACOR under task 1 of this WA
5. Report “long-term performance of subtitle D landfills”
6. Draft Manuscript “impact of moisture content on waste degradation”
7. Draft Manuscript “Landfill liner performance”
8. Excel database with wastes hydraulic properties
9. Web accessible hot landfill data sets

VII. GREEN MEETINGS AND CONFERENCES

The contractor shall follow the provision of EPA prescription 1523.703-1, *Acquisition of environmentally preferable meeting and conference services (May 2007)*, for the use of off-site commercial facilities for an EPA event, whether the event is a meeting, conference, training session, or other purpose. Environmental preferability is defined at FAR 2.101, and shall be used when soliciting quotes or offers for meeting/conference services on behalf of the Agency.

VIII. CONFERENCES AND WORKSHOPS

The contractor shall immediately alert the WACOR to any anticipated event under the work assignment which may result in incurring an estimated \$20,000 or more cost, funded by EPA, specific to that event, meeting, training, etc. Those costs would include travel of both prime and consultant personnel, planning and facilitation costs, including all outlays for conference preparation, AV and rental of venue costs, etc. The EPA WACOR will then prepare for approval the internal paperwork for the event and will provide it to the CO. The CO will advise the contractor when appropriate signatures have been obtained. At that point, effort can proceed for the event. If the event is being sponsored by another EPA organization, the organization providing the planning is responsible for the approval.

Any event which meets the definition of a “conference,” with total net expenditures greater than \$20,000, is required to submit EPA Electronic Form 5170 and Form 5170-A (with cost estimates/actuals). In the case the workflow system is down and CORs require emergency approval, they can submit EPA Form 5170 (PDF) (2pp, 93K) (with cost estimates) to conference@epa.gov.

IX. SOFTWARE APPLICATION AND ACCESSIBILITY (SECTION 508 REHABILITATION ACT AND AMENDMENTS)

Software Application files, if delivered to the Government, shall conform to the requirements relating to accessibility as detailed to the 1998 amendments to the Rehabilitation Act, particularly, but not limited to, § 1194.21 Software applications and operating systems and § 1194.22 Web-based intranet and internet information and applications. See: <http://www.section508.gov/>

Preferred text format:	MS Word, 8.0 or higher (Office 2007 or higher)
Preferred presentation format:	Power Point, Office 2007 or higher
Preferred graphics format:	Each graphic is an individual GIF file
Preferred portable format:	Adobe Acrobat, version 6.0

The WACOR shall identify which of delivered products will require 508 compliance.

QUALITY ASSURANCE SURVEILLANCE PLAN
for WSD's Mission Support

Quality Assurance Surveillance Plan

The requirements contained in this WA are considered performance-based, focusing on the Agency's desired results and outcomes. The contractor shall be responsible for determining the most effective means by which these requirements will be fulfilled. In order to fulfill the requirements, the contractor shall design innovative processes and systems that can deliver the required services in a manner that will best meet the Agency's performance objectives. This performance-based requirement represents a challenge to the contractor to develop and apply innovative and efficient approaches for achieving results and meeting or exceeding the performance objectives, measures, and standards described below. The Contractor's performance will be reflected in the positive or negative evaluation offered by the Agency in the Contractor Performance Evaluation (CPE) which is evaluated annually (per the "Contractor Performance Evaluation" clause in the contract). The WACOR shall submit a complete annual review of the areas outlined in the Quality Assurance Surveillance Plan (QASP), Attachment 4 of the contract, which will then be utilized by the CLCOR in preparing the overall evaluations submitted annually in response to the Contractor Performance Evaluation requirements in the contract.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 03-18								
		<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001								
Contract Number EP-C-15-012	Contract Period 08/01/2015 To 07/31/2019 Base Option Period Number 3	Title of Work Assignment/SF Site Name Impact of Material Mgmt Applic								
Contractor CSRA LLC		Specify Section and paragraph of Contract SOW 2.2, 2.10, 2.16, 2.4								
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 08/01/2018 To 07/31/2019								
Comments: The purpose of this amendment 1 to CSRA 9EP-C-15-012) WA 03-18 is to add a new task 9 - Landfill Temperature Measurement Using Landsat IR Data.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO <input type="checkbox"/> (Max 2) Note: To report additional accounting and appropriations date use EPA Form 1900-69A.										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE: 4,850						
08/01/2015 To 07/31/2019										
This Action:				1,410						
Total:				6,260						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee				LOE:		
Cumulative Approved:				Cost/Fee				LOE:		
Work Assignment Manager Name Thabet Tolaymat							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 513-487-2860			
							FAX Number:			
Project Officer Name Nancy Parrotta							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-564-5260			
							FAX Number:			
Other Agency Official Name							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number:			
							FAX Number:			
Contracting Official Name Donna Reinhart							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 513-487-2114			
							FAX Number:			

**WORK ASSIGNMENT
PERFORMANCE WORK STATEMENT (PWS)
Amendment 1**

Contract No. EP-C-15-012

Work Assignment: WA-03-18

WACOR: **Name:** Thabet Tolaymat
 Branch: Materials Management Branch
 Division: Land and Materials Management Division
 Office: Office of Research and Development
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 E-mail: Tolaymat.thabet@epa.gov
 Mail code: CHL-113
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 City, State, Zip: Cincinnati, Ohio, 45268

Alt WACOR: **Name:** David Carson
 Branch: Materials Management Branch
 Division: Land and Materials Management Division
 Office: Office of Research and Development
 Phone: 513-569-7527
 FAX: 513-569-7677
 E-mail: carson.david@epa.gov
 Mail code: 116 CHL
 Street Address: 26 West Martin Luther King Drive
 City, State, Zip: Cincinnati, Ohio, 45268

Period of Performance: Award to July 31, 2018

Title: Impact of Materials Management Applications

PWS Sections: 2.2, 2.10, 2.16, 2.4

I. PURPOSE:

The purpose of this work assignment is to evaluate the impact of sustainable materials management on the environment including groundwater. The project will provide information that would enhance US EPA, states and communities to implement decision making with regards to sustainable materials management.

To achieve this purpose the contractor shall be expected to: evaluate secondary data and conduct virtual and in person meetings with key members of the research community.

The intended audience of this project are EPA's Office of Solid Waste and Emergency Response, regional offices and other federal agencies. This project supports programmatic support needs related to our national all hazards homeland security responsibilities by: providing data and information that would lead to more accurate accounting of our solid waste management systems and lead to a higher level resiliency

in our materials management systems.

Other partners and external offices or agencies which should be included in coordination, and the nature of their involvement, are: EPA's Office of Emergency Response, and EPA Regional Offices

This work assignment supports the mission of the Office of Research and Development Sustainable and Healthy Communities Research as described in the FY16-19 Research Action Plan, which relates resources, activities, outputs, audience, short- and long- term outcomes to EPA's pillars of sustainability. Additionally, this work assignment contributes to the commitments made in EPA's *Strategic Plan: 2011 to 2015*.

In support of these requirements, this contract supports the nation's drinking and wastewater infrastructure, collectively known as the Water Sector, in being informed, coordinated, and prepared to prevent, detect, respond to, and recover from terrorist attack and other intentional acts, natural disasters, and other hazards (referred to as the "all hazards" approach), which may also occur, including the needs and challenges posed by natural disasters, catastrophic events, adaptation and impacts of climate change, floods, earthquakes, pandemic illness, and any other events which impact the safety and availability of our water supply.

In pursuit of these efforts, the contractor may be tasked with preparing a correlation summary comparing the results under this work assignment to the components of the Water Security Strategy framework.

II. BACKGROUND:

Historically, materials management in the United States has been handled through a variety of options that include disposal, recycling, or some form of treatment. Given the increased need to institute waste management practices that are sustainable and acknowledge critical environmental, social, and economic considerations (the three pillars of sustainability, also referred to as the triple bottom line), an examination of well-established as well as emerging waste management methods is warranted to facilitate decision-making.

Regulations that helps manage our nation's solid waste stream are almost 30 years old if not more. Since that time a large volume of data was generated on the performance of these facilities and evaluate their containment robustness into the future.

III. QA REQUIREMENTS:

Tasks two (2) and three (3) in this WA require direct environmental measurements and/or the use of secondary data. Consistent with the Agency's quality assurance (QA) requirements, the contractor has already developed a complete written Project-Specific Quality Assurance Project Plan (PQAPP) as part of a WA under previous option period (WA 01-18). As such the project-specific quality assurance requirements specified under Task 0, below have been addressed. Any amendment(s) to the QAPPs shall conform to EPA requirements for QA Project Plans as defined in "EPA Requirements for Quality Assurance Project Plans" (QA/R-5) (EPA 2001)

IV. DETAILED TASK DESCRIPTION:

All direction under this WA will be provided as written technical direction from the WACOR, Alternate WACOR as appropriate. If provided first as verbal technical direction to the contractor, it will be confirmed in writing within 5 calendar days, with a copy to the Contract Level Contracting Officer's

Representative (CL COR) and the Contracting Officer (CO), and is subject to the limitations of the technical direction contract clause. Each initial deliverable shall be provided to the EPA WACOR and EPA CL COR in draft form for review and comment. The contractor shall incorporate WACOR review comments into revisions of the drafts. All drafts and final reports shall be approved by the WACOR.

The contractor shall perform the following tasks:

Task 0: Work Plan, Progress evaluations, and Monthly Progress Reports

The contractor shall develop a work plan that describes how each task will be carried out. The work plan shall include a schedule, staffing plan, level of effort (LOE), and cost estimate for each task, the contractor's key assumptions on which staffing plan and budget are based, and qualifications of proposed staff. If a subcontractor(s) is proposed and subcontractors are outside the metropolitan DC area, the contractor shall include information on plans to manage work and contract costs. The work plan shall also provide an analysis of the existing and projected constraints, and the feasibility of accomplishing the project's purpose.

In addition, the contractor shall amend the project specific quality assurance plan (PQAPP), if needed, and ensure the quality of secondary data used to complete these tasks. This task also includes monthly progress and financial reports. The monthly progress report shall indicate, in a separate QA section, whether significant QA issues have been identified and how they are being resolved. Monthly financial reports must include a table with the invoice LOE and costs' broken out by the tasks in this WA.

In addition, in each monthly progress report, the contractor shall, at the introduction to the discussion of this WA, discuss actual progress toward achieving the purpose of this WA, , including problems encountered, issues that may need to be resolved, and anticipated timing for completing the goals of the WA. The contractor shall provide an overview of contract projects, striving to implement efficiencies in performance when complimentary requirements are issued. The contractor shall assure that duplication of effort relative to other ongoing work assignments under this contract is not occurring

Deliverables: Work plan, PQAPP and monthly progress and financial reports.

Task 1: Programmatic support

The contractor shall provide support for the area of sustainable materials management in terms analysis including the development, editing, and updating as necessary bulletins, advisories, reports, guidance document, fact sheets, and other outreach materials related to the research area. The contractor shall support, assess, summarize and provide reports and project files related to status, strategic planning, cost/benefit and/or economic impact analysis for Sustainable Materials Management initiatives. The number of anticipated initiatives to support is 2.

The contractor shall perform technical peer review of documents and materials related to the topics described in this WA, which were prepared by entities other than the contractor the contractor's team members and consultants. No peer review or review of technical or analytical documents should be undertaken by the contractor on documents, data, or studies contributed to, or completed by the contractor, contractor's team members, or its consultants.

The contractor shall follow all procedures concerning COI and Ethics related to the peer review process outlined in Section 3.4.5 of the EPA's Science Policy Council Handbook on Peer Review, (EPA/100/B-

06/002, 3rd Edition) or the most recent rendition of that handbook. The Handbook can be found electronically at the EPA website, <http://www.epa.gov/peerreview> and should be considered the guidance document for all elements of the peer review process.

The specific processes and responsibilities involved with the Peer Review task include:

- Selecting appropriate subject matter experts as peer reviewers and ensuring that they meet the qualification stipulated in the EPA peer Review Handbook;
- Developing the charge to the peer reviewers;
- Providing peer review support to the reviewers, including literature searches and related document
- The contractor will maintain communication with the reviewers to ensure that the charge is clear and that the work is on schedule. In addition, the contractor will establish appropriate mechanisms to provide compensation to the reviewers.
- Providing logistical and facilitation support to the peer review workshop(s) or meeting(s); transcribing, compiling and distributing all post meeting comments, proceedings, and summaries, the cost of the workshop(s) or meeting(s) shall not exceed \$19,000; and
- Providing a final document to the EPA CL COR/WA COR including comments, alternatives, dissenting views, sources relied upon, and recommendations.

The contractor shall is also expected to schedule five (3) person-trips to update the WACOR and other EPA employees in Cincinnati on the progress of the task.

Deliverables:

1. Programmatic support in the area of sustainable materials management upon the technical direction of the WACOR

Task 2: Long-term performance of Subtitle D landfills

In 2002 the EPA published a report “Assessment and Recommendations for Improving the Performance of Waste Containment Systems” EPA/600/R-02/099. Building on this report, there is a need to generate similar type of data and field performance as it pertains to Subtitle D (municipal solid waste landfills). The contractor shall evaluate the field performance of engineered systems (e.g., liners and covers) for at least ten (10) Subtitle D landfills that are nearing the end 30 years post closure care time regulatory limit. The ten landfill sites will be identified with consultation with the WACOR. This task may involve the contractor traveling to these sites to collect data needed for the completion of the task. The contractor shall evaluate the available information on field performance of these landfills, collect and analyze liquid management data for Subtitle D landfills, evaluate problems that have occurred in these systems and assess the adequacy of EPA HELP model as a predictor of head on the liner and the LandGEM model as a predictor of gas generation at these sites.

During option period 1, the contractor collected site specific data to evaluate the performance of landfill sites. In option period 2 and based on that data, the contractor developed a report evaluating the following aspects of solid waste landfill performance and its impact on water resources. The contractor shall address review comments at the following stages of the report review

1. WACOR Review
2. QA manager’s review
3. Internal Peer-Review (2 reviewers)
4. External Peer-Review (3 reviewers)

5. Program office and States review (not to exceed 100 man hours)

Furthermore, the contractor shall develop a draft manuscript focusing on gas generation from MSW landfills that utilizes data from the GHG reporting rule. The contractor shall also address WACOR review comments and external reviewer's (3 reviewers) comments

Finally, under this task, the contractor shall develop a draft manuscript evaluating landfill liner performance and leachate collection efficiency. The Contractor shall address WACOR review comments and external reviewer's (3 reviewers) comments.

Data for this report has been collected during option periods 1 and 2. Thus, the contractor is expected to make no more than two (1) person-trips for site visits. The contractor is also expected to schedule three (3) person-trips to update the WACOR and other EPA employees in Cincinnati on the progress of the task.

Deliverables:

1. Draft performance report addressing the 6 categories of reviews stated above.
2. Documents outlining the contractor's response to the reviewers' comments for each of the 6 categories of reviewers stated above.

Task 3: Moisture impact on waste decomposition

Laboratory studies suggest that moisture content plays a major role in the decomposition of solid waste. The data shows that waste containing higher moisture decomposes more readily than waste with lower moisture content. While this trend is considered a fact in laboratory studies, field data are not available to support this conclusion. The contractor shall collect and use landfill gas generation data, waste disposal data and rainfall data to develop an approach to evaluate the impact of rainfall on waste decomposition in solid waste landfills around the nation. The contractor shall develop a manuscript based on the approach and shall address the following three stages of review:

1. QA review
2. Internal review (2 reviewers)
3. External peer-review (3 reviewers)

Deliverables:

Draft and final manuscript outlining the impact of moisture on waste decomposition in solid waste landfills.

Task 4: Hydraulic properties of landfill liners

literature review to compile hydraulic properties of geosynthetic materials. HELP model uses hydraulic conductivity of geomembranes, geonets and geotextiles. The contractor shall compile hydraulic conductivity and other pertinent information of the following geosynthetics from up to 5 manufacturers per category:

- 1) Geomembrane
- 2) Geotextile
- 3) Geonets/geocomposite
- 4) Geosynthetic clay liners

The contractor shall also We will conduct a literature review to compile vapor transmission data for 14 geomembrane types. The contractor shall use vapor transmission data to calculate the hydraulic conductivity.

Furthermore, the contractor shall develop an approach manuscript that evaluates the field performance of landfill liners and calculate landfill leachate collection efficiency based on field performance. If possible, the contractors shall use data from both hazardous and non hazardous landfill sites to evaluate the gas

Deliverables:

1. An excel database of hydraulic conductivity of the types of liners listed above. The contractor shall provide average and the range of hydraulic conductivity values of these geosynthetics.
2. Draft and final manuscript outlining the performance of landfill bottom liners in waste management systems.
3. Final Report

Task 5: MSW landfills leachate quality

The contractor shall compile and analyze leachate quality data available for MSW landfills for at least 6 States. The contractor shall analyze the data to identify:

1. Contaminants that are not detected above their respective detection limits and the detection frequency
2. Contaminants that are frequently detected above their respective MCL/SMCL. It should be noted that the MCL and SMCL are not regulatory standards for leachate. The contaminants that are consistently detected below the respective MCL/SMCL do not have the potential to pose a risk to human health, so the objective of this evaluation is to identify contaminants that potentially pose a risk to human health.
3. The number of sites that have recorded contaminant exceedances.
4. Frequency analysis (number of sites, number of contaminants, number of exceedances).
5. Box-and-whisker distribution of the contaminants that exceeded more than 50% of times for each site above the respective MCL/SMCL.

Deliverables:

1. A draft and final manuscript discussing the analysis and outlining major conclusions of the study to evaluate landfill leachate quality data.

Task 6. Evaluation of data from elevated temperature landfills

The contractor shall review, analyze and comment on data provided by EPA WACOR for MSW landfills with elevated waste temperatures. The data review shall be conducted to address the following objectives

1. Characterize and understand the current conditions (properties, such as location, boundaries, etc.) of the landfills that can help evaluate the causes of elevated temperature with the understanding that the data currently available may not allow full evaluation.
2. Provide an assessment of the direction of movement and magnitude of elevated temperature zones
3. Determine what data elements are required to achieve items “1 and 2” above as well as what markers should be monitored or measured to determine changes in the conditions of the elevated waste temperatures

The contractor shall summarize the data for no more than 8 landfill sites at the request of the WACOR

through a technical directive.

Deliverables:

An internet accessible portal with data showing the progression and extent of the heating within the landfill sites.

Task 7. Literature review of hydraulic properties of various wastes

The contractor shall identify hydraulic properties of various industrial waste products that are outlined below:

1. Auto shredder fluff (<https://wasteindustries.com/landfill/specialwaste>)
2. Secondary aluminum dross
3. Wastewater treatment plant sludges
4. Flue gas desulfurization (FGD byproduct)-power generation
5. Fluidized bed combustion (FBC)
6. Water treatment plant sludge (ferric, iron, alum)
7. Biosolids
8. Wood ash
9. Wood/paper sludges
10. Foundry sands (http://www.michigan.gov/documents/deq/SolidWasteAnnualReport_-_Fiscal_Year_2017_FINAL_612551_7.pdf)
11. Bark ash
12. Cement kiln dust
13. Lime kiln dust
14. Slags (TRB report)
 - a. Iron (several types), steel (several types), Copper, Nickel, Lead, Zinc, and phosphorus
15. High speed steel grinding swarf
16. Contaminated soil (<https://wasteindustries.com/landfill/specialwaste>)
17. Industrial sludge
18. Other sludges

The contractor shall identify the hydraulic conductivity, porosity, pore size distribution, to calculate field capacity and wilting point for these materials.

Deliverables:

1. An excel database with these data for the materials listed above. We will also write a review paper documenting these data.

Task 8: Hydrologic Evaluation of Landfill Performance (HELP) Model

Over the past year, the government has successfully migrated the Hydrologic Evaluation of Landfill Performance Model (HELP) from Fortran 77 to VBA code. The contractor shall develop and enhanced user interface for the Excel-VBA based HELP model. Furthermore, the contractor shall assist the Agency in deploying and debugging the beta version of the software and development of the final references needed to publish the model. 1.

Deliverables:

An update interface and a “User Guide” for the HELP model.

Task 9: Landfill temperature measurement using Landsat IR data

The contractor shall develop and employ a methodology for the identification of landfill temperatures using satellite IR data for a selected number of landfills. Briefly, the contractor shall collect Landsat 8 imagery data for all dates corresponding to the identified landfill location, process the imagery (see Figure 1), and calculate LST for each date, as appropriate. As noted in the discussion sections, not all data may be valid due to cloud or snow cover. Each of the fully processed data files should also be presented as visual Figures in a Word or PowerPoint document to show changes in LST in time.

The contractor shall then develop a report that identifies (1) if LST can identify subsurface exothermic reactions at elevated temperature landfills (ETLFs), (2) if LST at ETLFs is notably different from landfills not experiencing elevated temperatures, (3) determine the “start date” of elevated temperatures (by way of LST) for known ETLFs, (4) and if (1) and (2) are proven to be possible, to identify ETLFs that are currently unknown to US EPA, Region 5, state regulators, and/or landfill operators.

The contractor shall employ this method for one (1) landfill initially to determine the most efficient course of action based on the pre-determined methodology. Once the initial analysis is completed, the contractor shall repeat the process for no less than 9 additional landfills as identified by US EPA. The landfill sites will be identified by ORD in consultation with Region 5 and Ohio EPA.

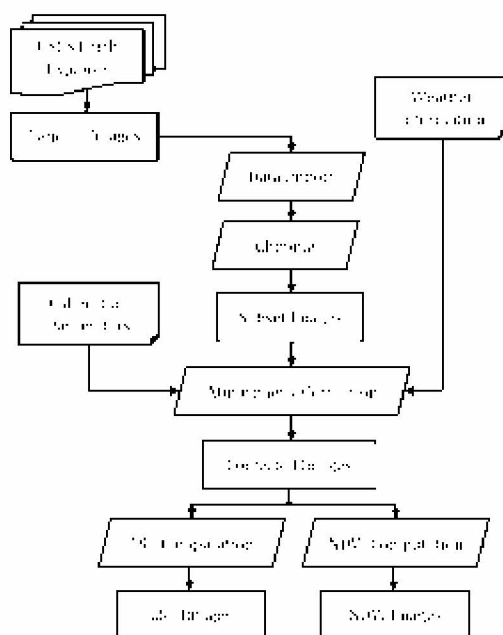


Figure 1. Overall workflow for Landsat data processing. (Reproduced from Yan et al. 2014)

Deliverables

- Processed TIRS image files
- A combined Word or PowerPoint document with each of the processed image files organized by landfill and presented in order from oldest to most recent.
- A report that identifies (1) if LST can identify subsurface exothermic reactions at elevated temperature landfills (ETLFs), (2) if LST at ETLFs is notably different from landfills not

experiencing elevated temperatures, (3) determine the “start date” of elevated temperatures (by way of LST) for known ETLFs, (4) and if (1) and (2) are proven to be possible

V. SCHEDULE/DELIVERABLES

1. Work plan: In accordance with contract terms
2. QAPP(s): Three (3) weeks after TD work plan approval, edits, amendments will occur as the WA needs and requested by the WAOR
3. Progress reports: Delivered to WACOR monthly
4. Progress meetings: Conducted with the WACOR monthly
5. Final Report long-term performance of subtitle D landfills is due to the EPA 4 months after WA approval.
6. Programmatic support in the area of SMM upon the technical direction by the EPA WACOR
7. Draft manuscript “Impact of moisture content on waste degradation” 6 months after
8. A report that identifies (1) if LST can identify subsurface exothermic reactions at elevated temperature landfills (ETLFs), (2) if LST at ETLFs is notably different from landfills not experiencing elevated temperatures, (3) determine the “start date” of elevated temperatures (by way of LST) for known ETLFs, (4) and if (1) and (2) are proven to be possible.

VI. REPORTING REQUIREMENTS

1. Monthly Progress Reports (including a progress evaluation discussion)
2. Monthly Financial Reports
3. Development and or update Project Specific PQAPP as needed for any of the tasks
4. Reports requested by the WACOR under task 1 of this WA
5. Report “long-term performance of subtitle D landfills”
6. Draft Manuscript “impact of moisture content on waste degradation”
7. Draft Manuscript “Landfill liner performance”
8. Excel database with wastes hydraulic properties
9. Web accessible hot landfill data sets
10. Method to identify hot landfills

VII. GREEN MEETINGS AND CONFERENCES

The contractor shall follow the provision of EPA prescription 1523.703-1, *Acquisition of environmentally preferable meeting and conference services (May 2007)*, for the use of off-site commercial facilities for an EPA event, whether the event is a meeting, conference, training session, or other purpose.

Environmental preferability is defined at FAR 2.101, and shall be used when soliciting quotes or offers for meeting/conference services on behalf of the Agency.

VIII. CONFERENCES AND WORKSHOPS

The contractor shall immediately alert the WACOR to any anticipated event under the work assignment which may result in incurring an estimated \$20,000 or more cost, funded by EPA, specific to that event, meeting, training, etc. Those costs would include travel of both prime and consultant personnel, planning and facilitation costs, including all outlays for conference preparation, AV and rental of venue costs, etc. The EPA WACOR will then prepare for approval the internal paperwork for the event and will provide it to the CO. The CO will advise the contractor when appropriate signatures have been obtained. At that point, effort can proceed for the event. If the event is being sponsored by another EPA organization, the

organization providing the planning is responsible for the approval.

Any event which meets the definition of a “conference,” with total net expenditures greater than \$20,000, is required to submit EPA Electronic Form 5170 and Form 5170-A (with cost estimates/actuals). In the case the workflow system is down and CORs require emergency approval, they can submit EPA Form 5170 (PDF) (2pp, 93K) (with cost estimates) to conference@epa.gov.

IX. SOFTWARE APPLICATION AND ACCESSIBILITY (SECTION 508 REHABILITATION ACT AND AMENDMENTS)

Software Application files, if delivered to the Government, shall conform to the requirements relating to accessibility as detailed to the 1998 amendments to the Rehabilitation Act, particularly, but not limited to, § 1194.21 Software applications and operating systems and § 1194.22 Web-based intranet and internet information and applications. See: <http://www.section508.gov/>

Preferred text format:	MS Word, 8.0 or higher (Office 2007 or higher)
Preferred presentation format:	Power Point, Office 2007 or higher
Preferred graphics format:	Each graphic is an individual GIF file
Preferred portable format:	Adobe Acrobat, version 6.0

The WACOR shall identify which of delivered products will require 508 compliance.

QUALITY ASSURANCE SURVEILLANCE PLAN for WSD’s Mission Support

Quality Assurance Surveillance Plan

The requirements contained in this WA are considered performance-based, focusing on the Agency’s desired results and outcomes. The contractor shall be responsible for determining the most effective means by which these requirements will be fulfilled. In order to fulfill the requirements, the contractor shall design innovative processes and systems that can deliver the required services in a manner that will best meet the Agency’s performance objectives. This performance-based requirement represents a challenge to the contractor to develop and apply innovative and efficient approaches for achieving results and meeting or exceeding the performance objectives, measures, and standards described in Attachment 4 of the contract. The Contractor’s performance will be reflected in the positive or negative evaluation offered by the Agency in the Contractor Performance Evaluation (CPE) which is evaluated annually (per the “Contractor Performance Evaluation” clause in the contract). The WACOR shall submit a complete annual review of the areas outlined in the Quality Assurance Surveillance Plan (QASP), included in the contract, which will then be utilized by the Contract Level Contracting Officer Representative (CLCOR) in preparing the overall evaluations submitted annually in response to the Contractor Performance Evaluation requirements in the contract.